REMARKS

Currently pending are claims 1-49, 51, and 56-202. Claims 6-10, 14-17, 40-49, 51, 59-61, 63, 66, 67, 69-85, 91, 93-100 and 118 have been allowed. Claims 1, 2, 5, 11, 18-12, 22, 28, 31, 32, 38, 39, 86, 101-104, 106, 115-117, 119-124, 126-129, 131-138, 142-151, 153, 154, 157-159, 162-165, 171-173, 175, 176, 179-181, 184-187, 189-197, and 200-202 have been rejected. Claims 3, 4, 12, 13, 21, 23-27, 29, 30, 33-37, 56-58, 62, 64, 65, 68, 87-90, 92, 105, 107-114, 125, 130, 139-141, 152, 155, 156, 160, 161, 166-170, 174, 177, 178, 182, 183, 188-192, 198, and 199 have been objected to.

Best Available Copy

Applicant submitted the Declaration of Dr. Andrew R. Barron, under 37 § 1.132 on August 24, 2004. Dr. Barron received A.R.C.S. and B.Sc. (1st Class, Hones.) degrees, majoring in chemistry, at Imperial College of Science and Technology, University of London in 1986. He received a D.I.C. and Ph.D., at the same university in 1986. He was a Post-Doctoral Research Associate, at the University of Texas, Austin in 1986-1987.

Dr. Barron was an Assistant Professor and then an Associate Professor, at Harvard University from 1987 to 1995. In the fall of 1995, he went to Rice University, where he is currently the Charles W. Duncan, Jr. - Welch Chair of Chemistry and Professor of Materials Science in the Department of Chemistry and Department of Mechanical Engineering and Materials Science. He has authored over two hundred journal articles and has made a like number of presentations.

As explained by Dr. Barron, lactoferrin (LF) has a bilboate structure, with a positively charged N-terminus lobe and a negatively charged C-terminus lobe. (Barron Decl., ¶ 7.) (*Id.*) A full length LF peptide sequence has about 600 to about

800 continuous amino acids. Human LF, in particular, is about 703 amino acids long and has a molecular weight of about 83,000 daltons. (*Id.*)

LF is a known antimicrobial agent. Its activity is highly dependent on its three-dimensional or tertiary structure. (Specification, col. 7, lines 16 and 17.) If LF does not have the proper conformation, its activity is diminished or lost. Specification, col. 7, lines 17 and 18.)

Now it has been unexpectedly found that LF can be stabilized and its antimicrobial activity increased, if the LF is immobilized by binding its N-terminus to a suitable, naturally occurring substrate, *i.e.,* if LF has its N-terminus region attached to a substrate leaving the C-terminus region free to interact with microbes. (Appl. page 7, line 34-page 8, line 3.) For LF to become immobilized on a substrate and, in particular on a naturally occurring substrate, the portion of the substrate which is to do the binding should carry the opposite charge, *i.e.*, carry a positive charge. (Barron Decl., ¶ 9.)

The examiner discounts Dr. Barron's declaration. The examiner asserts that the declaration should be ignored, because Dr. Barron "performs no direct testing on the prior art compositions in order to determine whether or not they comprise LF immobilized to a naturally occurring substrate via the N-terminus region of the LF," but "attempt[s] to show by scientific reasoning and/or argument that the prior art compositions [sic] do not teach this feature."

Applicant respectfully disagrees. The declaration has a well founded factual basis that is entirely consistent with the disclosure set forth in applicant's specification. There is no requirement that a declaration submitted under 37 C.F.R. 1.132, be based on direct testing.

The examiner asserts that:

> One major argument made by Declarant and in the Remarks is that '[f]or the N-terminus region to become immobilized on a naturally occurring substrate, the region of the substrate to which the N-terminus region is to become attached should carry the opposite charge, i.e., carry a negative charge. . .' However, Declarant does not provide any citation to the specification which would support this contention, and the examiner can find no support in the original disclosure of the invention for this contention.

Support for the contention is provided by applicant's frequent and unequivocal teaching that LF must be immobilized on the substrate via the N-terminus region of the LF. Applicant was not required to provide an explanation in the specification concerning how his invention worked, *i.e.*, how the N-terminus region is immobilized on the substrate. Dr. Barron's explanation – that to be immobilized, the positive N-terminus region must bind with a negatively charged substrate – is of importance only in the context of subsequently trying to help the examiner understand how the invention is distinguishable over the prior art.

The examiner also asserts that:

> Further, this argument is inconsistent with the disclosure of in the specification of useful substrates which do not have a positive charge. For example, the original specification at page 10, line 22, and originally-filed claim 3 disclose triglycerides to be useful substrates for immobilizing lactoferrin by its N-terminus region. Triglycerides are uncharged. The original specification at page 10, lines 19-22, and originally-flied claim 3 disclose proteins, polysaccharides, and lipids to be useful substrates for

immobilizing lactoferrin by its N-terminus. These classes of compounds embrace positively charged, negatively charged, and uncharged compounds.

What is clear when the application is considered in its entirely is that a suitable substrate must be one on which the LF becomes immobilized via its N-terminus. For example, originally filed dependent claim 3 did not simply, broadly cover substrates, including triglycerides. Instead, the substrates were subject to the limitation that the LF must be immobilized via its N-terminal region. For the reasons given by Dr. Barron, LF cannot bind to triglycerides and other lipids via its N-terminal region. (It is important to note that there is nothing in the record that contradicts Dr. Barron's declaration. None of the references relied upon by the examiner suggest that LF can become immobilized on lipids, such as triglycerides.) Consequently, what is inconsistent with applicant's overall teachings is applicant's initial recitation of triglycerides and other lipids – not Dr. Barron's declaration. This inconsistency has been corrected. All the claims now recite only substrates on which LF is immobilized via its N-terminus.

Applicant has never stated that all proteins and polysaccharides are useful. They too are subject to the limitation that the LF must be immobilized to the substrate via its N-terminal region. There are numerous examples of suitable proteins and polysaccharides. Useful proteins include fibronectin, casein and mucin, while suitable polysaccharides include galactose-rich polysaccharides, collagen, heparin-sulfate, and carrageenan. (Page 10, lines 19-23.) These all contain negatively charged regions and, accordingly, are all consistent with Dr. Barron's explanation of what it takes to immobilize LF by its N-terminus region. Therefore, Dr. Barron's declaration is not inconsistent with the claimed invention.

Lastly, the examiner asserted:

Finally, this argument by Declarant uses a significant qualifier "should." Because of this use of this word, Declarant in effect admits that a substrate does not have to have a negative charge in order to be useful in immobilizing lactoferrin by its N-terminus.

Applicant respectfully disagrees. The primary definition of "should" as found in Merriam-Webster's Collegiate Dictionary, Eleventh Addition, p. 1153 (copy attached) is "**1** -- used in auxiliary function to express condition <if he ~ leave his father, his father would die – Gen 44:22(RSV>" Dr. Barron uses "should" in this same conditional sense – if LF is to be bound to the substrate via its N-terminus, the substrate ~ have a region carrying a negative charge. Therefore, Dr. Barron's use of the word "should," supports the argument that LF must be immobilized on a substrate having a negative region.

In particular, the Examiner rejected claims 102-104, 115-117, 119, 124, 127, 128, 137, 138, 142-148, 154, 157, 158, 171, 172, 176, 179, 180, 186, and 193-196 under 35 U.S.C. 102(e) as being anticipated by US 6,475,511 B2 ("Gohlke *et al.*"). Gohlke *et al.* describe compositions containing a combination of colostrum and LF in a "mucosal delivery format" ("MDF"). (Col. 6, lines 13-28.) The composition can also contain modified pectin. (Col. 6, lines 49-52.) By MDF is meant a composition, such as a lozenge, formed of *solid* components. (Barron Decl., ¶ 11.) For example, Gohlke *et al.* teach, "The individual components of the composition may be obtained from commercial sources: colostrum (which is dehydrated by standard spray-drying procedures known in the art)" (col. 9, lines 41-44). Furthermore, examples 1 - 3 describe a process for preparing the compositions where, "[E]ach of the following ingredients is placed, in *powdered* form, into a commercial mixer." (Emphasis added.) The ingredients are then mixed and *cold pressed*.

The examiner argues that:

> With respect to Gohlke et al (U.S. Patent No. 6,475,511), Declarant argues that cold pressing as occurs in Gohlke et al will not provide an environment suitable to cause lactoferrin to become attached to the colostrum or the modified pectin via the lactoferrin's N-terminus region. However, Declarant does not provide any reasoning or evidence as to why these processing steps of Gohlke et al are insufficient to result in immobilization via the N-terminus of lactoferrin.
>
> Further, there is no disclosure anywhere in the specification that special procedures or conditions are necessary in order to achieve the desired immobilization. See, e.g., page 11, lines 3-11, of the specification. In the absence of a disclosed need for special conditions, Gohlke et al's disclosed thorough mixing and cold pressing of the ingredient in powder form is deemed to be sufficient to result in the claimed immobilization.

Applicant respectfully disagrees. Dr. Barron makes plain that LF will not become immobilized, if it is simply admixed with another solid. He explains, "The mere presence of LF in a cold-pressed mixture with other *solids*, such as colostrum and modified pectin in an MDF format, would not inherently result in the LF becoming attached via its N-terminus." (Barron Decl., ¶ 13, emphasis added.)

It is not clear what the examiner means by "special conditions." Applicant teaches that LF is immobilized on the substrate using a *suitable* technique and gives as an example "mixing the LF with the biologically active substrate in a suitable medium, such as deionized water." (Specification, page 11, lines 3-5.)

Accordingly, nothing in the specification, in Gohlke *et al.* or in any of the other references contradicts Dr. Barron's declaration and suggests that LF can become immobilized simply by admixing with another solid. Therefore, Gohlke *et al.* does not anticipate any of claims 102-104, 115-117, 119, 124, 127, 128, 137, 138, 142-148, 154, 157, 158, 171, 172, 176, 179, 180, 186, and 193-196, so that this ground for rejection should be withdrawn.

The examiner also rejected claims 1, 2, 11, 18, 19, 28, 31, 39, 101-103, 119-124, 126-129, 131, 132, 134, 142-151, 153, 164, 171-173, 175, 186, 193-195, 197, and 200 under 35 USC §102(b) as being anticipated by or under 35 USC §103(a) as obvious in view of WO Patent Application 91/13982 ("WO Patent Application '982"). WO Patent Application '982 generally relates to human LF expressed using recombinant DNA. It discloses the use of this LF as a nutritional supplement, an antiseptic, and as a food-spoilage retardant. The LF can be compounded with certain carriers or diluents.

However, WO Patent Application '982 neither broadly teaches LF immobilized on a naturally occurring substrate via the N-terminus region of the LF, nor does it provide a specific example of such an immobilized LF. (Barron Decl., ¶ 15.) The examiner suggests that:

> "The WO Patent Application '982 teaches LF in combination with stearic acid (which is a lipid and also corresponds to Applicant's pharmaceutically acceptable carrier of claim 102) or its salts . . . Because the same components are present in the same defined dispersion, inherently the LF in the composition of the WO Patent

> Application '982 will be immobilized via its N-terminus.
>
> . . ."

Applicant respectfully disagrees. Stearic acid is not a naturally occurring substrate as the term is to be understood in the context of the instant specification and claims. For example, stearic acid with a molecular weight of only 284.47 is not a substrate on which LF can be immobilized. That would be akin to saying that a dog was immobilized on a flea, if a flea attached itself to a dog.

The examiner asserts that:

> This argument cannot be accepted because it contradicts the original disclosure of substrates with molecular weights significantly less than that of lactoferrin. For example, page 10, lines 19-22, of the specification and originally-filed claim 3 recite that nucleic acids, nucleotides, lipids, adenosine triphosphate, and triglycerides are useful and acceptable substrates. These exemplified substrates have molecular weights which are significantly less than that of lactoferrin. Accordingly, stearic acid can not be disqualified as a substrate merely because of its molecular weight.

What is wrong, however, is not applicant's argument, as supported by Dr. Barron's declaration. Instead, what was wrong was the original inclusion of lipids, such as stearic acid, among the examples of suitable substrates. The reality is that LF cannot be immobilized by a lipid. As explained by Dr. Barron, "Stearic acid with a molecular weight of only 284.47 is not a substrate. LF could not become immobilized on such a small molecule." (Barron Decl., ¶ 17.) Accordingly, applicant's claims have been amended to omit inoperable "substrates," such as lipids.

Furthermore, the *mere presence* in a mixture of LF and stearic acid would *not* result in immobilization of the LF via its N-terminus on a substrate. The reference does not disclose or suggest any conditions under which the compounds could be mixed to achieve such immobilization. Merely compounding solid LF with solid stearic acid, such as by cold-pressing the solid ingredients, will not provide an environment suitable to cause the LF to become immobilized via its N-terminus region. Instead, appropriate conditions must be chosen before immobilization can occur. As described in the instant application, LF is immobilized by first mixing the LF with the naturally occurring substrate in *a suitable medium,* such as deionized water.

The examiner asserts that:

> "Declarant also argues that mere compounding will not result in lactoferrin's attachment to the stearic acid through the N-terminus of the lactoferrin. However, Declarant does not provide any reasoning or evidence to support this argument, and there is not disclosure any where (sic) in the specification that special procedures or conditions are necessary in order to achieve the desired immobilization. Further, because stearic acid has a negatively charged carboxyl group, all that it would take for the positively charged N-terminus of lactoferrin to become immobilized on the negatively charged carboxyl group would be to bring the two opposite charges into close physical proximity – charge attraction will do the remainder of the work. Any pharmaceutical compounding step will provide the necessary physical proximity so that at least some of the lactoferrin is immobilized by its N-terminus to a (sic) least some of the stearic acid.

Applicant respectfully disagrees. Dr. Barron makes plain that simply compounding LF with stearic acid will not result in LF's attachment. As Dr. Barron explains, "Merely compounding solid LF with other solids, such as stearic acid, will not provide an environment suitable to cause the LF to become attached to the other solid via LF's N-terminus region." (Barron Decl., ¶ 11.) The basis for his reasoning is readily apparent, merely admixing two solids, even if they have regions of opposing charges, does not provide the conditions necessary for immobilization to occur.

It is not clear what the examiner means by "special procedures or conditions". Applicant teaches that LF is immobilized on the substrate using a *suitable* technique and gives as an example "mixing the LF with the biologically active substrate in a suitable medium, such as deionized water." (Specification, page 11, lines 3-5.) Accordingly, nothing in the specification, in WO Patent Application '982 or any of the other references relied upon by the examiner contradicts Dr. Barron's declaration and suggests that LF can become using "any pharmaceutical compounding step." Therefore, the rejection of claims 1, 2, 11, 18, 19, 28, 31, 39, 101-103, 119-124, 126-129, 131, 132, 134, 142-151, 153, 164, 171-173, 175, 186, 193-195, 197, and 200 as being anticipated by or as obvious in view of WO Patent Application '982 should be withdrawn.

The examiner rejected claims 1, 2, 5, 18, 19, 22, 31, 38, 39, 101-103, 106, 115-117, 119-124, 126-129, 131-132, 134, 136, 142-151, 153, 164, 171-173, 175, 186, 193-197, and 200-202 under 35 USC § 102(b) as being anticipated by or under 35 USC § 103(a) as obvious in view of European Patent Application 753,309 ("European Patent Application '309"). European Patent Application '309 generally relates to the preparation of mixtures of LF and desferrioxamine methanesulphonate useful for the therapy of viral infectious diseases.

European Patent Application '309 neither broadly teaches LF immobilized on a naturally occurring substrate via the N-terminus region of the LF, nor does it provides a specific example of such an immobilized LF. (Barron Decl., ¶ 21.) The examiner asserts that:

> The European Patent Application '309 teaches compositions comprising LF and carriers such as paraffin oil and Vaseline (which are lipids), xantan gum and corn starch (which are polysaccharides), and lecithin (which is an emulsifier) . . . . Because the same components are present in the same defined dispersion, inherently the LF in the composition of the European Patent Application '309 will be immobilized by its N-terminus . . .

Applicant respectfully disagrees. Paraffin oil or, as it alternatively called mineral oil, is a mixture of liquid hydrocarbons. (Concise Chemical and Technical Dictionary, H. Bennett, Ed., Chemical Publishing Co., Inc. (1974) (pp. 702 and 777) (copy attached). Vaseline is a petroleum jelly, *i.e.*, a purified mixture of semi-solid hydrocarbons. (*Id.*, pp. 798 and 1100.)(copy attached.) They are low molecular weight compounds, not substrates, and LF could not become immobilized on such small molecules. (Barron Decl., ¶ 23.) Additionally, paraffin oil and Vaseline are both hydrocarbons, so that they do not carry any charge. (Barron Decl., ¶ 25.) As a result, neither paraffin oil nor Vaseline contains a region which will attach LF's positively charged N-terminus region. (*Id.*)

Similarly, lecithin is a low molecular weight compound. (Barron Decl., ¶ 27.) LF could not become immobilized on such a small molecule. (*Id.*)

Xanthan gum and corn starch do not carry any charges. (Barron Decl., ¶ 26.) As a result, neither xanthan gum nor corn starch contains a region which will attach LF's positively charged N-terminus region. (*Id.*)

Applicant's arguments are fully supported by Dr. Barron's declaration. Applicant has never asserted that all polysaccharides are useful. On the contrary, the polysaccharides are subject to the limitation that the LF must be immobilized to the substrate via its N-terminal region. Furthermore, inoperable "substrates," such as lipids, have been deleted from the claims. Therefore, the claims do not read on low molecular weight compounds, such as paraffin oil, Vaseline, and lecithin or on compounds lacking the negatively charged region needed to immobilize the N-terminus region of LF, such as paraffin oil, Vaseline, xanthan gum or corn starch. Nor would such low molecular weight or neutral compounds have suggested a composition of matter comprising LF immobilized on a substrate via the N-terminus region of the LF. Therefore, the rejection of claims 1, 2, 5, 18, 19, 22, 31, 38, 39, 101-103, 106, 115-117, 119-124, 126-129, 131, 132, 134, 136, 142-151, 153, 164, 171173, 175, 186, 193-197, and 200-202 as being anticipated by or as obvious in view of European Patent Application '309 should be withdrawn.

The examiner rejected claims 1, 2, 5, 18, 19, 22, 31, 32, 38, 39, 101-103, 106, 115, 119-124, 126-129, 131-136, 142-151, 153, 162-165, 171-173, 181, 184-187, 193-197, and 200-202 under 35 USC §102(b) as being anticipated by or under 35 USC §103(a) as obvious in view of European Patent Application 753,308 ("European Patent Application '308"). European Patent Application '308 generally relates to the use of LF for therapy of diseases caused by Gram positive pathogen microorganisms.

European Patent Application `308 neither broadly teaches LF immobilized on a naturally occurring substrate via the N-terminus region of the LF, nor does it provide a specific example of such an immobilized LF. (Barron Decl., ¶ 26.) The examiner asserts that:

> The European Patent Application '308 teaches compositions comprising LF and peppermint oil, gum base and corn starch (which are polysaccharides) . . . Because the same components are present in the same defined dispersion, inherently the LF in the composition of the European Patent Application '308 will be immobilized via its N-terminus . . .

Applicant respectfully disagrees. Peppermint oil is a low molecular weight compound. LF could not become immobilized on such a small molecule. (Barron Decl., ¶ 28.)

Furthermore, peppermint oil, gum base and corn starch do not carry any charges. As a result, neither peppermint oil, gum base nor corn starch contain a region which will attach LF's positively charged N-terminus region.

Applicant's arguments are fully supported by Dr. Barron's declaration. Applicant has never asserted that all polysaccharides are useful. On the contrary, the polysaccharides are subject to the limitation that the LF must be immobilized to the substrate via its N-terminal region. Therefore, the claims do not read on low molecular weight compounds, such as peppermint oil or on compounds lacking the negatively charged region needed to immobilize the N-terminus region of LF, such as gum base or corn starch. Nor would such low molecular weight or neutral

compounds have suggested a composition of matter comprising LF immobilized on a substrate via the N-terminus region of the LF. Therefore, the rejection of claims 1, 2, 5, 18, 19, 22, 31, 32, 38, 39, 101-103, 106, 115, 119-124, 126-129, 131-136, 142-151, 153, 162-165, 171-173, 181, 184-187, 193-197, and 200-202 as being anticipated by or as obvious in view of European Patent Application '308 should be withdrawn.

The examiner rejected claims 1-3, 5, 18-20, 22, 31, 32, 102-104, 106, 115, 119, 124, 137, 138, 142-150, 154, 164, and 165 under 35 USC § 102(e) as being anticipated by US Patent 6,066,469 by Kruzel *et al.* ("Kruzel *et al.*"). This patent discloses the use of LF as a nutritional supplement, an antiseptic, to treat and prevent opportunistic bacterial, viral and fungal infections, and as a food-spoilage retardant. It neither broadly teaches LF immobilized on a naturally occurring substrate via the N-terminus region of the LF, nor does it provide a specific example of such an immobilized LF. (Barron Decl., ¶ 30.) The examiner asserts that:

> "Kruzel *et al.* teach nutritional supplements comprising LF in combination with adjuvants or diluents such as cellulose, starch, tragacanth, and sodium carboxymethlycellulose . . . . Because the same components are present in the same defined dispersion, inherently the LF in the nutritional supplements of Kruzel et al will be immobilized via its N-terminus . . ."

Applicant respectfully disagrees. Cellulose and starch do not carry any charges. (Barron Decl., ¶ 34.) As a result, neither cellulose nor starch contains a region which will attach LF's positively charged N-terminus region. (*Id.*)

Applicant's argument is fully supported by Dr. Barron's declaration. Applicant has never asserted that all naturally occurring "substrates" are useful. On the contrary, the substrates are subject to the limitation that the LF must be immobilized via its N-terminal region. Therefore, the claims do not read on compounds lacking the negatively charged region needed to immobilize the N-terminus region of LF, such as cellulose or starch.

Moreover, Dr. Barron makes plain that Kruzel *et al.* does not disclose nor suggest any conditions under which the compounds could be mixed to result in the LF becoming attached via its N-terminus. (Barron Decl., ¶ 35.) He explains, "The mere presence in a mixture of LF and an adjuvant or a diluent, such as the solids cellulose, starch, tragacanth, and sodium carboxymethlycellulose would not inherently result in the LF becoming attached via its N-terminus." (Barron Decl., ¶ 33.)

It is not clear what the examiner means by "special conditions." Applicant teaches that LF is immobilized on the substrate using a *suitable* technique and gives as an example "mixing the LF with the biologically active substrate in a suitable medium, such as deionized water. (Specification, page 11, lines 3-5.) Accordingly, nothing in Kruzel *et al.,* the specification, or in any of the other references contradicts Dr. Barron's declaration and suggests that LF can become immobilized simply by admixing with another solid. Therefore, the rejection of claims 1-3, 5, 18-20, 22, 31, 32, 102-104, 106, 115, 119, 124, 137, 138, 142-150, 154, 164, and 165 as being anticipated by Kruzel *et al.* should be withdrawn.

CONCLUSION

In light of the foregoing amendments and remarks, it is believed that the application is in condition for allowance, so that a prompt and favorable action is respectfully requested.

Respectfully submitted,

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Attachments: A, B and C

ATTACHMENT A

Merriam-Webster's Collegiate® Dictionary

ELEVENTH EDITION

Merriam-Webster, Incorporated
Springfield, Massachusetts, U.S.A.

[1]TURB] **c** : CHANCE 4a ⟨a ~ at winning the prize⟩ **d** : a single appearance as an entertainer ⟨did a guest ~ for the program⟩ **7** : an effective remark; *esp* : SWIPE 2 ⟨a parting ~⟩ **8 a** : a single photographic exposure; *esp* : SNAPSHOT **b** : a single sequence of a motion picture or television program shot by one camera without interruption **9** : a charge of explosives **10 a** : a small measure or serving (as one ounce) of undiluted liquor or other beverage ⟨vodka ~*s*⟩ ⟨a ~ of espresso⟩ **b** : a small amount applied at one time : DOSE ⟨a ~ of fertilizer⟩ ⟨a ~ of humor⟩ **11 shot** *pl* : SPRINKLES, JIMMIES — **a shot** : for each one — **like a shot** : very rapidly — **shot in the arm** : STIMULUS, BOOST — **shot in the dark** **1** : a wild guess **2** : an attempt that has little chance of success

[2]**shot** *past and past part of* SHOOT

[3]**shot** *adj* (1763) **1 a** *of a fabric* : having contrasting and changeable colors or effects : IRIDESCENT **b** : suffused or streaked with a color ⟨hair ~ with gray⟩ **c** : infused or permeated with a quality or element ⟨~ through with wit⟩ **2** : having the form of pellets resembling shot **3** : reduced to a ruined or useless state ⟨his nerves are ~⟩

shot clock *n* (1973) : a clock in basketball that displays a countdown of the time within which shooting the ball is required

shot·gun \'shät-ˌgən\ *n* (1776) **1** : a smoothbore shoulder weapon for firing shot at short ranges **2** : an offensive football formation in which the quarterback plays a few yards behind the line of scrimmage and the other backs are scattered as flankers or slotbacks — **shotgun** *vt* — **shot·gun·ner** \-ˌgə-nər\ *n*

shotgun *adj* (1892) **1** : of, relating to, or using a shotgun **2** : involving coercion **3** : covering a wide field with hit-or-miss effectiveness

shotgun house *n* (1940) : a house in which all the rooms are in direct line with each other usu. front to back — called also *shotgun cottage, shotgun shack*; compare RAILROAD FLAT

shotgun marriage *n* (1929) **1** : a marriage forced or required because of pregnancy — called also *shotgun wedding* **2** : a forced union ⟨a spate of brokerage mergers . . . hastily arranged *shotgun marriages*⟩ —John Brooks⟩

shot hole *n* (1875) **1** : a drilled hole in which a charge of dynamite is exploded **2** : the dropping out of small rounded fragments of leaves that produces a shot-riddled appearance and is caused esp. by parasitic action

shot put *n* (1898) : a field event in which a shot is heaved for distance — **shot-put·ter** \'shät-ˌpù-tər\ *n*

shot-ten \'shä-tᵊn\ *adj* [ME *shotyn*, fr. pp. of *sheten* to shoot] (15c) : having ejected the spawn and so of inferior food value ⟨~ herring⟩

should \shəd, 'shůd\ *verbal auxiliary, past of* SHALL [ME *sholde*, fr. OE *sceolde* owed, was obliged to, ought to] (bef. 12c) **1** — used in auxiliary function to express condition ⟨if he ~ leave his father, his father would die —Gen 44:22(RSV)⟩ **2** — used in auxiliary function to express obligation, propriety, or expediency ⟨'tis commanded I ~ do so —Shak.⟩ ⟨this is as it ~ be —H. L. Savage⟩ ⟨you ~ brush your teeth after each meal⟩ **3** — used in auxiliary function to express futurity from a point of view in the past ⟨realized that she ~ have to do most of her farm work before sunrise —Ellen Glasgow⟩ **4** — used in auxiliary function to express what is probable or expected ⟨with an early start, they ~ be here by noon⟩ **5** — used in auxiliary function to express a request in a polite manner or to soften direct statement ⟨I ~ suggest that a guide . . . is the first essential —L. D. Reddick⟩

[1]**shoul·der** \'shōl-dər\ *n* [ME *sholder*, fr. OE *sculdor;* akin to OHG *scultra* shoulder] (bef. 12c) **1 a** : the laterally projecting part of the human body formed of the bones and joints with their covering tissue by which the arm is connected with the trunk **b** : the region of the body of nonhuman vertebrates that corresponds to the shoulder but is less projecting **2 a** : the two shoulders and the upper part of the back — usu. used in pl. **b** *pl* : capacity for bearing a task or blame ⟨placed the guilt squarely on his ~*s*⟩ **3** : a cut of meat including the upper joint of the foreleg and adjacent parts — see LAMB illustration **4** : the part of a garment at the wearer's shoulder **5** : an area adjacent to or along the edge of a higher, more prominent, or more important part: as **a** (1) : the part of a hill or mountain near the top (2) : a lateral protrusion or extension of a hill or mountain **b** : either edge of a roadway; *specif* : the part of a roadway outside of the traveled way **6** : a rounded or sloping part (as of a stringed instrument or a bottle) where the neck joins the body — **shoul·dered** \-dərd\ *adj*

[2]**shoulder** *vb* **shoul·dered; shoul·der·ing** \-d(ə-)riŋ\ *vt* (14c) **1** : to push or thrust with or as if with the shoulder : JOSTLE ⟨~*ed* his way through the crowd⟩ **2 a** : to place or bear on the shoulder ⟨~*ed* her knapsack⟩ **b** : to assume the burden or responsibility of ⟨~ the blame⟩ ~ *vi* : to push with or as if with the shoulders aggressively

shoulder bag *n* (1912) : a handbag looped over the shoulder by a strap

shoulder belt *n* (1967) : an automobile safety belt worn across the torso and over the shoulder — called also *shoulder harness*

shoulder blade *n* (14c) : SCAPULA

shoulder board *n* (1942) : one of a pair of broad pieces of stiffened cloth worn on the shoulders of a military uniform and carrying insignia

shoulder girdle *n* (1868) : the bony or cartilaginous arch that supports the forelimbs of a vertebrate — called also *pectoral girdle*

shoulder knot *n* (1676) **1** : an ornamental knot of ribbon or lace worn on the shoulder in the 17th and 18th centuries **2** : a detachable ornament of braided wire cord worn on ceremonial occasions on the shoulders of a uniform by a commissioned officer

shoulder patch *n* (1945) : a cloth patch bearing an identifying mark and worn on one sleeve of a uniform below the shoulder

shoulder strap *n* (1688) : a strap that passes across the shoulder and holds up an article or garment

should·est \'shůd-dəst\ *archaic past 2d sing of* SHALL

shouldn't \'shůd-dᵊnt, -dᵊn, *dial also* 'shů-tᵊn(t) *or* 'shůnt\ (1675) : should not

shouldst \shədst, 'shůdst, shətst, 'shůtst\ *archaic past 2d sing of* SHALL

shout \shaůt\ *vb* [ME] *vi* (14c) **1** : to utter a sudden loud cry **2** : to command attention as if by shouting ⟨a quality that ~*s* from good novels —John Gardner⟩ ~ *vt* **1** : to utter in a loud voice **2** : to cause to be, come, or stop by or as if by shouting ⟨~*ed* himself hoarse⟩ ⟨the proponents ~*ed* down the opposition⟩ — **shout·er** *n*

[2]**shout** *n* (14c) : a loud cry or call

shouting distance *n* (1930) : a short distance : easy reach — usu. used with *within* ⟨lived within *shouting distance* of her cousins⟩

shout–out \'shaůt-ˌaůt\ *n* (1990) : a brief expression of greeting or praise given esp. on a broadcast or audio recording

shout song *n* (1925) : a rhythmic song sung at religious services esp. by black Americans and characterized by responsive singing or shouting between leader and congregation

[1]**shove** \shəv\ *vb* **shoved; shov·ing** [ME, fr. OE *scūfan* to thrust away; akin to OHG *scioban* to push and prob. to Lith *skubti* to hurry] *vt* (bef. 12c) **1** : to push along **2** : to push or put in a rough, careless, or hasty manner : THRUST **3** : to force by other than physical means : COMPEL ⟨~ a bill through the legislature⟩ ~ *vi* **1** : to move by forcing a way ⟨bargain hunters *shoving* up to the counter⟩ **2 a** : to move something by exerting force **b** : LEAVE — usu. used with *off* ⟨*shoved* off for home⟩ — **shov·er** *n*

[2]**shove** *n* (14c) : an act or instance of shoving : a forcible push

[1]**shov·el** \'shə-vəl\ *n* [ME, fr. OE *scofl;* akin to OHG *scūfla* shovel, OE *scūfan* to thrust away] (bef. 12c) **1 a** : a hand implement consisting of a broad scoop or a more or less hollowed out blade with a handle used to lift and throw material **b** : something that resembles a shovel **c** : an excavating machine; *esp* : a hydraulic diesel-engine driven power shovel **2** : SHOVELFUL

[2]**shovel** *vb* **-eled** *or* **-elled; -el·ing** *or* **-el·ling** \'shə-və-liŋ, 'shəv-liŋ\ *vt* (15c) **1** : to take up and throw with a shovel **2** : to dig or clean out with a shovel **3** : to throw or convey roughly or in a mass as if with a shovel ⟨~*ed* his food into his mouth⟩ ~ *vi* : to use a shovel

shov·el·er *or* **shov·el·ler** \'shə-və-lər, 'shəv-lər\ *n* (15c) **1** : one that shovels **2** : any of several freshwater ducks (genus *Anas*) that have a large very broad bill and feed by dabbling

shov·el·ful \'shə-vəl-ˌfůl\ *n, pl* **shovelfuls** \-ˌfůlz\ *also* **shov·els·ful** \-vəlz-ˌfůl\ (1533) : as much as a shovel will hold

shovel hat *n* (1829) : a shallow-crowned hat with a wide brim curved up at the sides that is worn by some clergymen

shov·el·nose \-ˌnōz\ *n* (1709) : a shovel-nosed animal and esp. a fish

shov·el–nosed \'shə-vəl-ˌnōzd\ *adj* (1707) : having a broad flat head, nose, or beak

shovel pass *n* (1940) : a short underhand pass (as in football)

[1]**show** \'shō\ *vb* **showed** \'shōd\; **shown** \'shōn\ *or* **showed; show·ing** [ME *shewen, showen*, fr. OE *scēawian* to look, look at, see; akin to OHG *scouwōn* to look, look at, and prob. to L *cavēre* to be on one's guard] *vt* (12c) **1** : to cause or permit to be seen : EXHIBIT ⟨~*ed* pictures of the baby⟩ **2** : to offer for sale ⟨stores were ~*ing* new spring suits⟩ **3** : to present as a public spectacle : PERFORM **4** : to reveal by one's condition, nature, or behavior ⟨~*ed* themselves to be cowards⟩ **5** : to give indication or record of ⟨an anemometer ~*s* wind speed⟩ **6 a** : to point out : direct attention to ⟨~*ed* the view from the terrace⟩ **b** : CONDUCT, USHER ⟨~*ed* me to an aisle seat⟩ **7** : ACCORD, BESTOW ⟨~*s* them no mercy⟩ **8 a** : to set forth : DECLARE **b** : ALLEGE, PLEAD — used esp. in law ⟨~ cause⟩ **9 a** : to demonstrate or establish by argument or reasoning ⟨~ a plan to be faulty⟩ **b** : INFORM, INSTRUCT ⟨~*ed* me how to solve the problem⟩ **10** : to present (an animal) for judging in a show ~ *vi* **1 a** : to be or come in view ⟨3:15 ~*ed* on the clock⟩ **b** : to put in an appearance ⟨failed to ~⟩ **2 a** : to appear in a particular way ⟨anger ~*ed* in their faces⟩ **b** : SEEM, APPEAR **3 a** : to give a theatrical performance **b** : to be staged or presented **4 a** : to appear as a contestant **b** : to present an animal in a show **5** : to finish third or at least third (as in a horse race) **6** : to exhibit one's artistic work — **show·able** \'shō-ə-bəl\ *adj* — **show one's hand** *also* **show one's cards** **1** : to display one's cards faceup **2** : to declare one's intentions or reveal one's resources — **show one the door** : to tell someone to get out; *also* : FIRE 2b

syn SHOW, EXHIBIT, DISPLAY, EXPOSE, PARADE, FLAUNT mean to present so as to invite notice or attention. SHOW implies no more than enabling another to see or examine ⟨*showed* her snapshots to the whole group⟩. EXHIBIT stresses putting forward prominently or openly ⟨*exhibit* paintings at a gallery⟩. DISPLAY emphasizes putting in a position where others may see to advantage ⟨*display* sale items⟩. EXPOSE suggests bringing forth from concealment and displaying ⟨sought to *expose* the hypocrisy of the town fathers⟩. PARADE implies an ostentatious or arrogant displaying ⟨*parading* their piety for all to see⟩. FLAUNT suggests a shameless, boastful, often offensive parading ⟨nouveaux riches *flaunting* their wealth⟩.

syn SHOW, MANIFEST, EVIDENCE, EVINCE, DEMONSTRATE mean to reveal outwardly or make apparent. SHOW is the general term but sometimes implies that what is revealed must be gained by inference from acts, looks, or words ⟨careful not to *show* his true feelings⟩. MANIFEST implies a plainer, more immediate revelation ⟨*manifested* musical ability at an early age⟩. EVIDENCE suggests serving as proof of the actuality or existence of something ⟨a commitment *evidenced* by years of loyal service⟩. EVINCE implies a showing by outward marks or signs ⟨*evinced* not the slightest fear⟩. DEMONSTRATE implies showing by action or by display of feeling ⟨*demonstrated* their approval by loud applause⟩.

[2]**show** *n, often attrib* (13c) **1** : a demonstrative display ⟨a ~ of strength⟩ **2 a** *archaic* : outward appearance **b** : a false semblance : PRETENSE ⟨made a ~ of friendship⟩ **c** : a more or less true appearance of something : SIGN **d** : an impressive display ⟨his role as househusband . . . was purely for ~ —John Lahr⟩ **e** : OSTENTATION **3** : CHANCE 2 ⟨gave him a ~ in spite of his background⟩ **4** : something exhibited esp. for wonder or ridicule : SPECTACLE **5 a** : a large display or exhibition arranged to arouse interest or stimulate sales ⟨the national auto ~⟩ **b** : a competitive exhibition of animals (as dogs) to demonstrate quality in breeding **6 a** : a theatrical presentation **b** : a radio or television program **c** : ENTERTAINMENT 3b(1) **7** : ENTERPRISE, AFFAIR ⟨they ran the whole ~⟩ **8** : third place at the finish (as of a horse race) **9** *often cap* : the major leagues in baseball — used with *the*

ATTACHMENT B

Third Enlarged Edition

CONCISE CHEMICAL and TECHNICAL DICTIONARY

Edited by
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er formed on iron and steel during fabrication.

millstone. See buhrstone.

"Milltrox." Wet-milled zircon.

mill, universal. Two-high or three-high rolling mill with both horizontal and vertical rolls; frequently, the vertical rolls are doubled, with one pair on each side of the horizontal rolls.

Milmer. Copper δ -quinolinolate; used as textile preservative.

"Milogard." propazine.

Milontin. phensuximide.

Milorganite. See nitrorganic.

milori blue. Prussian blue with slight bronze overtones; besides the ferric ferrocyanide, it may contain gypsum, alum, barium sulfate or chalk; used in the manufacture of laundry blue, lithographic and printing inks, paints, coloring soaps, fertilizer mixtures.

milori green. Yellowish green pigment, chiefly lead chromate.

"Miltown." mepropamate.

Milvex. nylon film.

Milvex. nylon resin.

Milwaloy. Corrosion-resistant, high-alloy steels, with up to 30% chromium and up to 15% nickel.

mimetite (memetesite). $3Pb_3As_2O_8.PbCl_2$; yel., br., wh. or col. hex. min.; sp.gr. 6.98-7.25; hardness 3.5.

mimosine. 3-hydroxy-4-oxo-1 (4H) pyridinealanine.

min. Minute; minium (Apothecary); minimum; mineral.

$min_{(s)}$ (subscript). Minimum.

minargent. Cooper-base alloys, high in nickel (32 to 40% with fractional percentages of aluminum and other elements; used as a silver substitute.

mineral. Solid inorganic element or compound occurring naturally in the earth's crust, *e.g.* native copper, bauxite, etc.

mineral black. Carbonaceous rock or mineral powder; used as a black pigment.

mineral blue. See iron ferrocyanide (ic).

mineral brown. Metallic brown (see)

mineral butter. See antimony trichloride.

Mineral Colloid --. montmorillonite.

mineral colza oil. Mineral burning oil.

mineral cotton. See slag wool and rock wool.

mineral dressing. Processing or raw minerals to yield marketable products and waste by means that do not destroy the physical and chemical identity of the minerals.

Mineralead. Sulfur and silica.

mineral, economic. Mineral of commercial value.

mineral fat. See petrolatum.

mineral green. See mountain green.

Mineralites Powdered mica.

mineralizer. Small quantity of flus, *e.g.*, lime, added to a ceramic batch to promote crystal growth or compound formation.

mineral jelly, See petrolatum.

mineralogical hardness. See Moh's hardness.

mineralogy. Study of rocks and minerals.

mineral oil (white liquid paraffin; liquid petrolatum; Alboline; adepsine oil; Paroleine; Saxol). Mixture of liquid hydrocarbons obtained from petroleum; col. trans. liq.; sp.gr. 0.828-0.905^{25}; b.p. 360; i.w.; s.eth.; s.bz.; used in paints, varnishes, lacquers, medicine, sprays, as a solvent.

mineral orange. See red lead.

mineral red. See red lead.

mineral rouge. See red iron oxide.

mineral rubber (gilsonite; elaterite). Fossil resin resembling asphaltum, found only in U.S.; dk. br. sol.; sp.gr. 1.065-1.070; m.p. 160-170; used in varnishes, protective coatings, in insulating, paving and waterproofing.

mineral seal oil. Distillate with a boiling range between those of kerosene and gas oil proper; used for illuminating lighthouses.

mineral spirits. Petroleum solvent; b.p. 153.3-203.9.

mineral spirits #10. Petroleum-solvent; b.p. 152.2-197.8.

mineral tallow. See bitumen.

mineral tar. Soft natural asphalt.

mineral wax. See ozokerite wax.

mineral white. barium sulfate.

mineral wool (slag wool). Fibrous material, resulting from the action of a jet of steam on molten slag; used in insulating.

mineral yellow. yellow ocher.

"Minerec." Dixanthogen.

Minerol. solubilized light mineral oil.

miners' inch. In mining, aperture, one inch square with the upper edge 6 inches below the surface of a stream, which is used to measure rate of flow; yield about 1.5 cubic feet per minute.

miners' oil. Mineral burning oil mixed with refined white fish oil.

"Minicel." polypropylene foam sheet.

Minicel L-200. Cross-linked polyethylene foam.

"Minicel" S-2000. Cross-linked polyethylene foam.

"Minifos." monoammonium phosphate.

minimum deviation. Deviation or change of direction of light passing through a prism when the angle of incidence equals the angle of emergence.

mini-plant. Small plant chemical processes, inter between laboratory and

minium. See red lead.

Minkowski's theorem. E place in a four-dimensic continuum.

Minofor. Tin-base alloy mately 19% antimony, copper, and optionally

Minol. Explosive, used i charges, consisting of TN nitrate and aluminum po

Minoline Yellow mixture castor, mineral and ot used as a softening ag cotton and wool.

mint. See spearmint.

mint camphor. Menthol.

"Mintezol." thiabendazol

Mintrex. solvent naphtha.

Mintrol. solvent naphtha.

Min-U-Gel. attapulgite.

minus-blue. Substance tha cipally blue light.

minus-green. Substance principally green light.

Min-U-Sil. Micron sized

minus mesh. Portion of ple passing through a giv

minus-red. Substance that cipally red light.

Minvar. Cast ferrous all 38% nickel and 1-to-3% expansion alloy.

"Miochol." acetylcholine mannitol.

Miokon. diprotrizoate.

"Mipafox." *bis*(monois fluorophosphineoxide.

Mi-Phos M-5. mangane precipitating compound.

Mi-Phos Z-3. zinc phospl ing compound.

"Mi-Phos" 6. iron phospl

Mi-Phos 8. iron phosphat compound.

Mipolam. Polyvinyl chl non-inflammable, rubbe electrical insulation.

Mipol M-20. Rubber-like microcrystalline wax in r

"Mir." lauryl sulfate.

mirabilite (Glauber salt). wh. monocl. min.; sp.g hardness 1.5-2.0.

Miracil. 1-Diethylamin methylthioxanthone; use

Mira-Creme. starch.

Miradon. anisindione.

"Miragene" T. fatty acid

Miralite. Alloy with 96%

casein of the milk.

paracetomol. See *p*-hydroxy acetanilide.

parachloramine [1-(*p*-chloro-α-phenylbenzyl)-4-(m-methylbenzyl)piperazine meclizine; meclozine]. $C_{25}H_{27}ClN_2.2HCl$; m.w. 465; cr.; i.w.; s.al.; s.chl.

parachor. True measure of molecular volume as determined from Sugden's function which accounts for the surface tension.

Paracide. *p*-dichlorbenzol.

"Paricin" 9. propyleneglycol monohydroxy-stearate.

Paracin I. Methyl hydroxy stearate.

paracodin tartrate (dihydrocodeine bitartrate). $C_{18}H_{23}NO_2.C_4H_6O_6.H_2O$; m.w. 469.25; wh. cr.; d. 187; s.w.; s.al.

"Paracol." wax and wax-rosin emulsions.

Paracon. High molecular weight condensation product of hydroxy acids or of dibasic acids with glycols.

paraconic acid (tetrahydro-5-oxo-3-furan carboxylic acid; itamalic acid γ-lactone). $CH_2COOCH_2CHCOOH$; m.w. 130.05; cr., deliq.; m.p. 58; s.w.

"Paracortol." preonisolone.

paracoto (coto). Dried bark of a Bolivian tree containing paracotoin, hydrocotoin, leucotin.

paracotoin. $C_{12}H_8O$; m.w. 216.06; lt.-yel. cr.; m.p. 162; s.al.; s.eth.

paracoumarone. See coumarone-indene resin.

"Paracril." nitrile rubber.

paracrystalline. Term applied to grouping of molecules just prior to crystallization.

paracumarone. See coumarone-indene resin.

paracyanogen. $(CN)x$; m.w. (26.01)x; br. powd.; i.w.

paradamite. Zn_2AsO_4OH. min.

Paradene. Paracumarone-indene resin.

Paradione. paramethadione.

paradise plant. See mezereum.

paradise-seed oil (grains of paradise oil). Essential oil distilled from seeds of Amomum melegueta; odor similar to that of cardamon oil.

paradol (gingerol). $C_9H_{14}O_2$; m.w. 154.11; yel. semi-liq.; sp.gr. 1.069; i.w.; s.al.; s.eth.; amaroid.

Paradol. Condensation product of methylene and cresolsulfonic acid.

Paradone. Vat dye.

Paradow. *p*-dichlorobenzene.

Paradura. Phenolic resin.

"Paradyne." dipyrone.

paraffin-base oil. Petroleum which yields a residue of solid paraffin on distillation.

paraffin, chlorinated. See chlorinated paraffin.

paraffinicity. Proportion of paraffins, in a petroleum, relative to naphthenes and other compounds.

Paraffin Inhibitor Sticks. micro-crystalline wax and amorphous polyethylene.

paraffin jelly. See petrolatum.

parraffin liquid. mineral oil.

parraffin native. See ozokerite wax.

paraffin,neo. See neoparaffin.

paraffin oil. See mineral oil.

paraffins. See alkanes.

paraffin scale. Crude paraffin wax.

paraffin series. Hydrocarbons of formula C_nH_{2n+2}.

paraffin slack wax. See slack wax.

paraffin wax (paraffin; hard paraffin). Solid mixture of puried petroleum hydrocarbons; odorl. col. or wh. mass, sp.gr. ca. 0.9; m.p. 50-57; i.w.; s.eth.; s.bz.

Paraffion. Paraffin wax emulsion containing aluminum sulfate.

Parafilm. Paraffin wax modified with an elastomer to give a flexible, thermoplastic sheet or film.

"Paraflex." chlorzoxazone.

Paraflint. F-T wax.

Paraflow. Viscous oil made by condensation of chlorinated wax with an aromatic hydrocarbon.

paraformaldehyde. See polyoxy methylene.

Paragerm. Methyl-propyl-diphenol *p*-oxybenzoate.

Paraglas. polyacrylate.

Paragon clay. Hydrous aluminum silicate.

"Paragon" TS. alkyl naphthalene sulfonate + triethanolamine and alkali.

Paraguay tea. See yerba maté.

"Paragum" #6. sodium polyacrylate.

"Paragum" 60. ammonium salt of a polycarboxylic acid copolymer.

Paragutta. Deproteinized rubber, gutta percha hydrocarbon, and wax.

parahematin. Compound of hematin with denatured proteins, nitrogenous bases and the iron atom in the ferric state.

para-hydrogen. Hydrogen molecules with anti-parallel nuclear spins and even rotational quantum numbers.

paraison. Bubble (glass) formed at end of blowers tube.

"Paral." paraldehyde.

Paralac. alkyd resin.

Paralaudin. Diacetyl-dihydro morphine.

paraldehyde (2,4,6-trimethyl 1,3,5-trioxane; paraacetaldehyde). $OCH(CH_3)OCH(CH_3)OCHCH_3$ m.w.

ATTACHMENT C

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Pestox 14. See dimefox.
PET. poly(ethylene terephalate).
pet. Petroleum.
petalite. $Li_2O.Al_2O_3.8SiO_2$; col., wh., gray, redsh. or grnsh. monocl. min.; sp.gr. 2.386-2.465; hardness 6.0-6.5.
petaloid. Resembling a flower petal.
petit-grain oil (petit-grain citronier oil). Oil distilled from bitter-orange tree leaves and unripe fruit; yel.; sp.gr. $0.887\text{-}0.900^{15/15}$; sl.s.w.; s.al.
PETN. See Penthrite.
Petralol. Liquid petrolatum.
Petramin. chelating dye.
Petrex 5. Glycol ester of terpene-maleic anhydride addition product.
Petrex acid. reaction product of maleic anhydride and a monocyclic terpene.
Petrex resins. Alkyd resins produced from Petrex acid.
"Petrex" SS-70A. terpene alkyd resin.
Petri-dish. Shallow, circular dish with a loosely fitting, overlapping cover; used for culturing microorganisms on a solid medium.
petrified wood (agatized wood; opalized wood; silicified wood). Wood-like mineral consisting of opal or agate.
petri-, petro-. Prefix meaning stone.
Petro. Liquid petrolatum.
"Petro" AA (Surfatrope). methyl naphthalene sodium sulfonate.
Petro BA, BAF, BP, WP, SWP, (11, 208). sodium-xylene-sulfonates.
"Petro" 250. Complex dimethyl naphthalene sulfonate.
Petro 348. linear alkyl sulfonates.
Petroacid. Mixture of fatty acids formed from oxidation of petroleum fractions.
"Petrobase" No. 2. petroleum sulfonate and emulsifier.
Petrobenzol. Petroleum solvent; boiling range 61.1-96.1
Petrocera. beeswax (335) and petrolatum (665).
petrochemicals. Chemicals present in or derived from natural gas or crude petroleum by physical refining or chemical reaction.
Petroflex. butadiene-styrene elastomer.
Petrohol. isopropyl alcohol.
Petroil. petrolatum.
petrol. See gasoline.
petrolatum (petroleum jelly; mineral jelly; Vaseline; paraffin jelly; cosmoline; mineral fat; petroleum ointment; saxoline). Purified mixture of semi-solid hydrocarbons; lt. yel. to amber amor.; sp.gr. 0.820-0.850; m.p. 45-48; i.w.; s.eth.; s.bz.
petrolatum, liquid. white mineral oil.
petrolatum, white. See Albolene.
Petrolene. Petroleum solvent; boiling range 143-202°F.
petrolenes (malthenes). Portions of bituminous substances soluble in hexane.
petroleum (rock oil; coal oil; Seneca oil; mineral oil; crude oil; earth oil; Lima oil). Hydrocarbon mixture obtained from the earth; sp.gr. 0.78-0.97; yel.-black bisc. liq., inflam.; i.w.; s.eth.
petroleum acids, green. Water-soluble acids from acid petroleum sludge.
petroleum benzin. See benzin.
petroleum benzin. Petroleum ether (see).
petroleum, blown. Native liquid bitumen heated and oxidized by blown air.
petroleum, coastal type. Asphalt-base petroleum, naphthenic in character, containing little or no paraffin wax.
petroleum, core. Petroleum plus core gas in core as brought to surface in drilling wells.
petroleum ether (canadol; light ligroin; benzine). Fraction of petroleum distilling between 40 and 70°; col. liq., inflam.; sp.gr. 0.635-0.660; s.al.; s.eth.; consists of pentanes and hexanes.
petroleum jelly. petrolatum.
petroleum, mid-continent. Mixed-base petroleum containing both paraffin wax and asphalt.
petroleum, mixed base. Petroleum containing paraffin hydrocarbons, asphaltic material and paraffin-wax.
petroleum mobility. Ratio of effective permeability to the viscosity of hydrocarbons in place.
petroleum naphtha. Petroleum fraction distilling between 90 and 120°; sp.gr. 0.707-0.722; consists mainly of heptanes and octanes.
petroleum ointment. petrolatum.
petroleum, Pennsylvania type. Paraffin-base petroleum, containing paraffin wax but little or no asphalt.
petroleum pour point. The temperature 5°F. above that at which a petroleum oil will not flow when chilled without disturbance at specified cooling rate.
petroleum pour point, maximum. A figure for temperature, 5°F. above the highest temperature at which an oil ceases to flow when alternately cooled and warmed under definitely prescribed conditions.
petroleum, reduced crude. Residue from distillation of petroleum.
petroleum reservoir. A natural structural trap containing an exploitable concentration of hydrocarbons.
petroleum solvent. Solvent obtained from petroleum distillates, *e.g.*, petroleum ether, mineral spitits.

petroleum spirits.
petroleum spirits
fined petroleum d
point not below 7
petroleum sulfonate
fonate.
petroleum sulfonic
acid). Complex
acids of aromatic
paraffins and hi
paraffins, obtaine
finery sludge.
petroleum thinner.
leum solvent.
petroleum, topped.
additional volatile
removed.
petrologen. keroge
Petromor. petrolet
Petronate. Sodium
nates.
Petropol 2138. Mi
olefinic hydrocarl
unsaturated visc
some drying-oil p
Petropon. Synthet
petroselaidic acid.
acid.
Petrosene. Microc
Petroset. Solprene
"Petroset" SB. En
"Solprene GEO."
Petrosol C-50 (Petr
C-90). Petroleun
Petrosol 25. Petro
fatty ester.
"Petro" Solve. arc
vent.
"Petrosul" 745. so
+ min. oil.
"Petrothene." poly
"Petrothene" CD—.
black.
"Petrothene" XL.
ethylene comp.
Petrothene XL1411.
ethylene.
Petro ULF-X. alk
ium salt.
"Petrowet" R. sod
hydrocarbon sulfc
"Petrowet" WN. c
pettymorrel. See a
PE tube. Photoele
petunin (methyl d
glucoside from fl
brida.
pentunin chloride. C
vlt. pl.; m.p. ca.
petzite. $(Au.Ag)_2T$
min.; sp.gr. 8.72-
naturally occurrin

amine.

Varonic T410. Ethoxylated tallow diamine.

Varonic Q110. Oleyl alcohol ethoxylate.

Varonic 3200. Castor oil ethoxylate.

Varonol ALS. lauryl alcohol sulfate, ammonium salt.

Varonol DLS. lauryl alcohol sulfate, diethanolamine salt.

Varonol MLS. lauryl alcohol sulfate, magnesium salt.

Varonol SLES. ethoxylated lauryl alcohol sulfate, sodium salt.

Varonol SLS. lauryl alcohol sulfate, sodium salt.

Varonol TAS. lauryl alcohol sulfate, triethanolamine salt.

Varox. 2,5-*bis*(*t*-butyl-peroxy)2-,5-dimethyl-hexane.

Varox 743. A 50% active coco dihydroxyethyl amine oxide.

Varox 1770. coco amine oxide.

Varsol. aliphatic petroleum solvent; b.p. 148.9-210.

Varsol 1. petroleum solvent.

Varsoy. Prebodied chemically reacted soybean oil.

"Varstat" K22. Ethoxylated coco alkanolamide.

Varstat T22. ethoxylated soya alkanolamide.

Varsulf 60. Biodegradable linear dodecyl benzene sulfonate as triethanolamine salt (60% solution).

Varsulf 65. Hard dodecyl benzene sulfonate, triethanolamine salt.

"Varsulf" 91. sodium octyl sulfate (40%) aq. sol'n.

vasaca. See adhatoda.

Vascoloy-Ramet. Tungsten and tantalum cemented carbides with nickel or cobalt as binding matrix.

Vasco steel. Carbon and low-alloy chromium-vanadium tool steels; alloy steels contain 0.15 to 0.25% vanadium, up to 1.5% chromium.

vasculose. Lignocellulose.

Vaseline. petroleum jelly.

vasicine. See *l*-peganine.

Vasiodone. diodone.

Vasite. Liquid stripping agent of the hydrosulfite type.

"Vasocon." maphazoline hydrochloride.

"Vasodilan." isoxsuprine HCl.

Vasogen. oxygenated petrolatum.

vasopressin. Hormone of the posterior lobe of the pituitary gland which causes contraction of the muscles of the arterioles and capillaries, with resulting rise in blood pressure, and which also causes contraction of the intestinal muscles.

Vasoxine. methoxamine HCl.

Vasoxyl hydrochloride. methoxamine hydrochloride.

Vasylox. methoxamine HCl.

Vatacid. Hydrogen leuco dispersion of a vat dye.

vat dye. Dyestuff insoluble in water but soluble in alkaline solution when reduced with suitable agents, *e.g.*, the insoluble indigo blue is converted to soluble indigo white upon reduction. The latter is applied to the cloth and oxidized by exposure to air to the original insoluble blue form.

Vatrolite. See Lykopon.

Vatsol OS. sodium salt of alkyl naphthalene sulfonic acid.

Vatsol OT. dioctyl sodium sulfosuccinate.

Vatsol OT-C Dioctyl sodium sulfosuccinate and inert organic diluent.

Vattene. Vat dye.

vatting. Process of solubilizing vat dyes in an aqueous solution of caustic soda and sodium hydrosulfite.

vatting test. Re-oxidation and decolorization of reduced anthraquinones.

Vavilov's law. Constant quantum yield of fluorescence over broad ranges of wave-lengths.

Vaylar. Fine silica.

Vaylar 800. Arc-process silica.

"Vazo" Vinyl. alpha, alpha-azobisisobutyronitrile.

V-Bor. Borax pentahydrate.

VC. Vinylidene chloride plastic.

v-c-9-104. See prophos.

V-C-13. See nemacide.

VCA. vinyl chloride acetate.

Veba-Wax. New name for Ruhrwax.

Vectolite. Compressed powdered iron oxide and cobalt oxide.

vector. Straight line that, in both length and direction, represents a quantity, *e.g.*, velocity, stress.

vector field. Totality of values of a vector quantity which has a definite value at each point of a region.

vector function. Vector quantity having a definite value for every value within certain limits of an independent variable.

vector polygon. Force polygon for a set of forces whose resultant equals zero.

vector product. Vector having magnitude equal to product of magnitudes of the factors and sine of angle between the direction of the two vectors and a direction perpendicular to their common plane.

vector ratio. Ratio of two alternating quantities in which vectors express the relative amplitudes and phases.

Vee. polyvinylide

'Veegum." Modi aluminum silicat

Veegum CER. V

Veegum PRO. a

veenite. 2PbS.(Sb,

veering. Clockwis tion of the wind

vees. Beveled edg

vee-way (V-way). machined in a ca a moving part.

Vegadex. See CD

Vegadex. 2-C carbamate.

"Vegamine." Hy tein.

Vegard-Kaplan ba caused by nitroge

Vegard law. Whe line materials for lattice constant o the space between constants in ratio tities.

"Vegefat." Polyu

Vegemine. Hydrol tein.

vegetable oxy-acids.

vegetable rinse. C hair coloring.

Vegetex. Extracts

veg-gasoline. Motc cracking tung or c

Vegifat. High titer

Vegol. Concentrate tocopherols; vitam

Vegolysen. hexame

Vegolysen T. hexa trate.

vehicle. Liquid pc printing ink.

vehicle, paint. Su paint, consisting c drying oils, resins, persing medium.

veiling. Cob-web p

Vejin. Vegetable lec

vel. Velocity.

Vel. Mixed coconu eryl sodium sulfon

Velan PF. 1- pyridinium chlorid

Velatrum. petroleur

Velban. Vinblastine

vellarin. Amaroid o cotyle asiatica leav s.al.; s.eth.

vellosine. $C_{21}H_{22}O_2N$ 396.23; yel. cr.; m. s.eth.; toxic alkaloi

velocity. Time rate direction.

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